

REMARKS

This application has been reviewed in light of the Office Action dated February 11, 2005. Claims 1-21 are pending in this application. Claims 1, 6, 11, 16, and 19 have been amended to define still more clearly what Applicants regard as their invention. Claims 1, 11, and 19 are in independent form. Favorable reconsideration is requested.

A Claim To Priority and a certified copy of the priority document for this application were filed on October 15, 2003, as evidenced by the returned receipt postcard bearing the stamp of the Patent and Trademark Office, a copy of which is attached hereto. Applicants respectfully request acknowledgment of the claim for foreign priority and the receipt of the certified copy.

The Office Action rejected Claims 6 and 16 under 35 U.S.C. § 112, second paragraph, as being indefinite; and rejected Claims 1-5, 7-15, and 17-19 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,762,769 (Guo). Applicants respectfully traverse these rejections.

Claims 6 and 16 have been carefully reviewed and amended as deemed necessary to ensure that they conform fully to the requirements of Section 112, second paragraph, with special attention to the points raised in paragraph 2 of the Office Action. Specifically, Claims 6 and 16 have been amended to replace the phrase “all possible ways” with the phrase “the plurality of different ways, which plurality comprises all possible arrangements of the texture maps.” It is believed that the rejection under Section 112, second paragraph, has been obviated, and its withdrawal is therefore respectfully requested.

As shown above, Applicants have amended independent Claims 1, 11, and 19 in terms that more clearly define what they regard as their invention. Applicants submit

that these amended independent claims, together with the remaining claims dependent thereon, are patentably distinct from the cited prior art for at least the following reasons.

As an initial matter, Applicants note that the February 11, 2005 Office Action does not appear to assert that Claims 6, 16, 20, and 21 are invalid in view of the cited art.

Independent Claim 1 in the present application is directed to a method, performed in a processing apparatus, of processing data defining at least three two-dimensional rectangular texture maps to generate data defining a single two-dimensional rectangular texture map containing all of the starting texture maps. According to the method, two of the texture maps are combined by arranging them adjacent each other with an edge of one texture map parallel to an edge of the other texture map, and a rectangle containing the two texture maps is defined, thereby generating a new texture map for subsequent combination. The combining processing is repeated to combine texture maps in pairs, to generate a single two-dimensional rectangle containing the starting texture maps. The at least three two-dimensional rectangular texture maps that are combined include texture maps of different respective sizes.

Among other notable features of Claim 1 is “defining a rectangle containing the two texture maps, thereby generating a new texture map for subsequent combination”; “repeating the combination processing to combine texture maps in pairs”; and that “at least three two-dimensional rectangular texture maps that are combined include texture maps of different respective sizes.”

Guo relates to a method for synthesizing textures from an input image which uses accelerated patch-based sampling to synthesize textures in real-time using a small input texture sample.

In the system of Guo, texture patches of equal size and shape are cut from an input image and placed one at a time in a output image texture. The process is described for example at column 3, line 8 to column 4, line 45 and column 11, line 58 to column 18, line 33. The processing includes the following steps.

First, the size of the texture patches that are to be used is determined (column 3, lines 17-21 and column 11, lines 58-63). Second, a starting patch is chosen from the input image at random and pasted into one corner of an output image that will form the final texture (column 3, lines 29-32 and column 12, lines 4-7).

Third, texture patches in the input image are then identified which have a “boundary zone” along an edge which matches a corresponding boundary zone of the starting patch which has already been pasted into the output texture. One of the identified patches in the input image is then pasted to the output texture adjacent to the previously pasted texture patch with the corresponding boundary zones of each patch overlapping (column 3, lines 32–55 and column 12, lines 7-45).

Then, the newly pasted texture patch becomes the target texture patch and the processing in the third step and the present step is repeated, with the patch pasting proceeding in scan-line type fashion to fill the output texture on a row-by-row basis (column 3 line 56 – column 4, line 3 and column 12, lines 46-60).

When a patch is to be pasted into the second row of the output texture, the patch will need to have two matching boundary zones -- one to match the zone of the patch

pasted immediately prior to the current patch on the second row, and one to match the boundary zone of the patch below in the first row (column 4, lines 22-30 and column 13, lines 12-20).

Nothing has been found in Guo that would teach or suggest “defining a rectangle containing the two texture maps, thereby generating a new texture map for subsequent combination,” as recited in Claim 1. In fact, it is clear that no such processing is performed by Guo. More particularly, when a new texture patch is pasted into the output image in Guo, the newly pasted texture patch then becomes a target texture patch for subsequent patch matching. No rectangle is defined around the newly pasted texture patch and the texture patches already existing in the output image to generate a composite target texture patch. This is because, when a patch is to be selected to be pasted into the second row of the output texture, the new patch is selected to have two matching boundary zones – one to match the zone of the patch pasted immediately prior to the current patch on the second row, and one to match the boundary zone of the patch below in the first row (see, for example column 4, lines 22-30 and column 13, lines 12-20 of Guo).

Consequently, Guo teaches that it is essential for each patch pasted into the output texture to remain as a separate, individual patch for subsequent matching purposes. In fact, if a rectangle was defined around the pasted patches to generate a new texture map for subsequent combination, the individual nature of the pasted patches would be lost and the system of Guo would fail to work.

Further, nothing has been found in Guo that teaches or suggests that the combining processes is repeated “to combine texture maps in pairs,” as recited in Claim 1.

To the contrary, in Guo, the texture patches are cut from an input image and placed one at a time in the output image texture.

In addition, nothing has been found in Guo that would teach or suggest that “the at least three two-dimensional rectangular texture maps that are combined include texture maps of different respective sizes,” as recited in Claim 1. In Guo, the texture patches cut from the input image must be of the same size, and the system of Guo includes a specific processing step of determining what the size of all of the texture patches should be (see, for example column 3, lines 17-21 and column 11, lines 58-63). It will be understood that the system of Guo would not work if texture patches of different size were to be used. This is because the system of Guo relies upon the texture patches having the same size in order that the patches can be pasted in scan-line type fashion to fill the output texture on a row-by-row basis, which could not be achieved with texture patches of different size (see, for example column 3, line 56 to column 4, line 3 and column 12, lines 46-60).

A review of the other art of record has failed to reveal anything which, in Applicants’ opinion, would remedy the deficiencies of the art discussed above, as a reference against Claim 1. Accordingly, Applicants submit that Claim 1 is patentable over Guo.

Independent Claims 11 and 19 recite features similar to those discussed above with respect to Claim 1 and therefore are also believed to be patentable over Guo for the reasons discussed above.

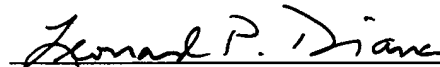
The other claims in the present application depend from one or another of the independent claims discussed above, and, therefore, are submitted to be patentable for

at least the same reasons as are those corresponding independent claims. However, since each dependent claim is also deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merit is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and the allowance of the present application.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,



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Sir: Kindly acknowledge receipt of the accompanying:

☒ Specifications, claims and abstract 35 pages, with Transmittal Form

☒ Patent Application Bibliographic Data Sheet 3 sheets

☒ Executed Oath or Declaration and Power of Attorney

☒ 8 Sheets of ☒ formal ☐ informal drawings

☒ Check for \$ 1,330.00 (filing fee)

☐ Request for Continued Examination and Check for \$ 40.00

☒ Assignment, PTO-1595 and Check for \$ 40.00

☐ Transmittal Under 37 CFR 1.53(d) (CPA)

☐ Petition under 37 CFR 1.136 and check for \$

☒ Other (specify) Information Disclosure Statement & 6 references;
Submission of Priority Document & 1 reference.

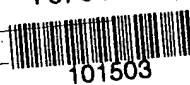
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